

CLAIMS

1. A method for generating multiple descriptions of compressed data, the method comprising:
 - generating transform coefficients from input data;
 - quantizing the transform coefficients;
 - generating an energy distribution of the quantized transform coefficients;
 - grouping the transform coefficients into layers based on the energy distribution; and
 - entropy coding a first number of layers to generate a first description of compressed data.
2. The method of claim 1, wherein grouping the transform coefficients comprises:
 - grouping the transform coefficients in an order of significance.
3. The method of claim 1, wherein grouping the transform coefficients comprises:
 - splitting the transform coefficients into multi-bit units; and
 - grouping the multi-bit units into layers.
4. The method of claim 1, wherein grouping the transform coefficients comprises:
 - splitting the transform coefficients into nibbles; and
 - grouping the nibbles into layers.
5. The method of claim 4, wherein grouping the nibbles comprises:
 - grouping higher and lower nibbles separately into layers.
6. The method of claim 4, wherein grouping the transform coefficients further comprises:
 - splitting the transform coefficients into crumbs; and

grouping the nibbles and crumbs into layers.

7. The method of claim 1, further comprising:
entropy coding a second number of layers to generate a second description of compressed data.
8. The method of claim 1, further comprising:
entropy coding each additional number of layers to generate a master inventory of compressed data.
9. The method of claim 8, further comprising:
extracting a selected number of layers from the master inventory.
10. The method of claim 1, wherein generating the transform coefficients comprises:
generating transform coefficients using absolute DCT.
11. The method of claim 1, further comprising:
arranging the quantized transform coefficients prior to generating the energy distribution.
12. Apparatus for generating multiple descriptions of compressed data comprising:
means for generating transform coefficients from input data;
means for quantizing the transform coefficients;
means for generating an energy distribution of the quantized transform coefficients;
means for grouping the transform coefficients into layers based on the energy distribution; and
means for entropy coding a first number of layers to generate a first description of compressed data.

13. The apparatus of claim 12, wherein the means for grouping the transform coefficients comprises:
 - means for splitting the transform coefficients into multi-bit units; and
 - means for grouping the multi-bit units into layers.
14. The apparatus of claim 12, wherein the means for grouping the transform coefficients comprises:
 - means for splitting the transform coefficients into nibbles; and
 - means for grouping the nibbles into layers.
15. The apparatus of claim 14, wherein the means for grouping the nibbles comprises:
 - means for grouping higher and lower nibbles separately into layers.
16. The method of claim 14, wherein the means for grouping the transform coefficients further comprises:
 - means for splitting the transform coefficients into crumbs; and
 - means for grouping the nibbles and crumbs into layers.
17. The apparatus of claim 12, further comprising:
 - means for entropy coding a second number of layers to generate a second description of compressed data.
18. The apparatus of claim 12, further comprising:
 - means for entropy coding each additional number of layers to generate a master inventory of compressed data.
19. The apparatus of claim 18, further comprising:
 - means for extracting a selected number of layers from the master inventory.
20. The apparatus of claim 12, wherein generating the transform coefficients comprises:
 - means for generating transform coefficients using absolute transform.

21. The apparatus of claim 12, further comprising:
means for arranging the quantized transform coefficients prior to generating the energy distribution.
22. Apparatus for generating multiple descriptions of compressed data comprising:
a transform module configured to generate transform coefficients from input data;
a quantization module coupled to the transform module and configured to quantize the transform coefficients;
a layering module coupled to the quantization module, the layering module configured to generate an energy distribution of the quantized transform coefficients and to group the transform coefficients based on the energy distribution; and
an entropy coder coupled to the layering module and configured to entropy code a number of layers to generate a description of compressed data.
23. The apparatus of claim 22, wherein the entropy coder entropy codes each additional number of layers to generate a master inventory of compressed data and wherein the apparatus further comprises:
a storage medium configured to store the master inventory.
24. The apparatus of claim 23, further comprising:
a selection module configured to extract a selected number of layers from the master inventory.
25. A method for generating compressed data based on quantized transform coefficients of the data, the method comprising:
accessing an inventory of multiple layers of compressed data generated based on an energy distribution of the quantized transform coefficients; and
extracting a selected number of layers from the inventory to generate the compressed data.

26. The method of claim 25, wherein accessing the inventory of multiple layers comprises:

accessing a master inventory of each multiple layers of compressed data generated based on an energy distribution of the quantized transform coefficients.

27. Apparatus for generating compressed data based on quantized transform coefficients of the data, the apparatus comprising:

means for accessing an inventory of multiple layers of compressed data generated based on an energy distribution of the quantized transform coefficients; and

means for extracting a selected number of layers from the inventory to generate the compressed data.

28. The apparatus of claim 27, wherein the means for accessing the inventory of multiple layers comprises:

means for accessing a master inventory of each multiple layers of compressed data generated based on an energy distribution of the quantized transform coefficients.

29. Apparatus for generating compressed data based on quantized transform coefficients of the data, the apparatus comprising:

a storage medium configured to store an inventory of multiple layers of compressed data generated based on an energy distribution of the quantized transform coefficients; and

a selection module coupled to the storage medium and configured to extract a selected number of layers from the inventory to generate the compressed data.

30. The apparatus of claim 29, wherein the storage medium is configured to store a master inventory of each multiple layers of compressed data generated based on an energy distribution of the quantized transform coefficients.